

COMMUNITY ARCHITECTURE » ACCESSIBLE ADVENTURE

SURVEYING THE WORLD PERCHED high in a tree is one of the simple joys of childhood. But how can a child with a physical disability join in on the fun? That was the question posed by a young boy at Jowonio—a preschool recognized for its integrated curriculum for

“The tree house project has proven to be far more ambitious than that.”

Beginning in August 2012, the AIAS FBD team worked with its faculty advisors, architecture professors Sinéad Mac Namara and Larry Bowne, to develop design concepts for the tree house

plete specifications and many details you don’t think about in a design studio, where it’s ‘talkitecture.’”

The students settled on a metaphorical design concept inspired by the Eastern bluebird (the official New York State bird) combined with the giant AT-AT (All-Terrain Armored Transport) of *Star Wars* fame. The abstract structure wraps around an old-growth tree on the school’s nature trail, which the students cleared and graded to make fully wheelchair accessible. The side panels of the structure feature a feather pattern to create perforations, and star constellations that are fabricated into the tree house underbelly. The indoor space includes portholes, a telescope, a specimen table, a crawl-through tunnel, and a custom-made rope ladder for children to climb on. The ground directly in front of the tree house drops off precipitously, creating the impression of a giant bird about to take flight. “The children can step out onto or roll up into a protruding ‘beak’ window that provides a bird’s-eye view of the surrounding landscape,” O’Hara says. “The elevated vantage point gives them a sense of adventure.”

Designing Play Perch was only the first step in the process. Moving on to the construction phase, the AIAS FBD team broke up into smaller groups responsible for fabrication, administration, and marketing. They learned how to create and stick to a budget, manage their time, and hire local sub-contractors, fabricators, and electricians to help bring the tree house to life. They also learned how to raise funds for the project—including a \$15,000 grant from Chancellor Cantor. “Syracuse has a reputation for being a community that knows how to do stuff, so it was nice to find almost all of the materials and skills we needed right here in town,” Brock says. “We used a lot of local family-owned companies, and in many cases, we were able to get discounts and free shipping.”

Although the team initially underesti-



Play Perch wraps around an old-growth tree on Jowonio’s nature trail.

all children, including those with special needs—who wanted a tree house on the school grounds that would be accessible for all of his friends, including those in wheelchairs. The school turned to the Syracuse University chapter of the American Institute of Architecture Students Freedom by Design (AIAS FBD) group to help it explore the feasibility of designing and building an accessible tree house on a hill overlooking its playground. “Most of our projects cost under \$10,000 and can be completed in 10 days or less,” says Chad Brock ’16, director of AIAS FBD, which uses high-level design and construction techniques to improve the lives of community members with physical or mental disabilities.

based on input from Jowonio staff, who stressed the space must be built to child-scale, completely accessible, and serve as an outdoor interactive classroom that will capture the children’s imaginations and curiosity. Before the end of the summer, it was clear the tree house project—later dubbed Play Perch—would require more than a few hours of volunteer work a week, so it was expanded into a three-credit independent-study course at the School of Architecture taught by Mac Namara and Bowne. “This was a brand new experience for most of us,” says Steven O’Hara ’15, project manager. “We were learning how meticulous our design had to be. We had to consider com-



Members of the Freedom by Design group of the SU chapter of the American Institute of Architecture Students lay the flooring, install the beak window, and secure the underbelly of the Play Perch tree house in preparation for its dedication on May 10.

Jowonio students have fun exploring all of the cool spaces designed into their new tree house.



mated the scope of the project and the amount of time it would take to construct it, the only major obstacle they encountered was unpredictable winter weather that delayed the project's completion date, originally scheduled for December. Finally, on a beautiful day this spring, Play Perch was dedicated at a ribbon-cutting ceremony with all of the Jowonio students in attendance. "The Jowonio family is so grateful to have worked with the visionary students and faculty of the Syracuse University School of Architecture," says Ellen Barnes, executive director of Jowonio. "They have been creative, persistent, and incredibly responsive to our needs. This magical place in the woods is a gift that will provide opportunities for all of

Jowonio's students to have year-round exposure to the outdoors for many years to come."

O'Hara says he was excited to see the kids using the tree house just like it was designed to be used. "They were climbing, jumping, crawling, and even sitting quietly alone in spaces we designed specifically for that purpose," he says. "I had a feeling of real pride." Brock says his greatest reward was seeing the excitement of the kids and realizing that Play Perch will have a life long after he and the other AIAS FBD team members have moved on. "Play Perch turned out much better than we could have ever hoped," he says. "This project enhanced my educational experience in so many ways."
—Christine Yackel



Photo by Michael Palmer

MARSHALL STREET RECORDS » SYRACUSE SOUNDS

MARSHALL STREET Records teamed up with the SU chapter of Habitat for Humanity in March to host “Raise the Roof with Electrocuse,” an event to celebrate the student-run music company’s release of *Electrocuse Volume 3* and raise money for a worthy cause. *Electrocuse* is a mixtape that features nine tracks of electronic music created by SU students and alumni. The release party, held at Schine Underground, showcased *Electrocuse* DJs and live performances by other student musicians and local artists signed with Marshall Street Records (MSR), as well as plenty of *Electrocuse*

gear giveaways and gift certificates donated by Marshall Street businesses. “There are a ton of great electronic artists who go through Syracuse University,” says Meah Pollock ’14, MSR’s general manager. “Our goal with *Electrocuse* is to bring them exposure and help promote the Syracuse electronic music scene from within.”

According to Pollock, the electronic dance music craze has exploded in popularity everywhere in recent years, including here. “What SU students may be surprised to hear, though, is how well student and alumni artists have been doing outside of campus,” she says. For example, The Chainsmokers, a DJ duo featured on *Electrocuse Volume 2*, recently toured Europe, playing in night clubs in cities from Barcelona to Rome.

MSR is one of two student-operated music companies at SU, the other being Syracuse University Recordings. Both provide hands-on learning for students in the Music Enterprise Laboratory, a two-semester, credit-bearing class offered through the Setnor School of Music. Participating students include those enrolled in the Bandier Program for Music and the Entertainment Industries, music industry majors, and students whose talents lie in such diverse areas as illustration, commercial design, and business management. Through the Music Enterprise Laboratory, students produce and release music, promote live events, and market merchandise. They have negotiated, recorded, manufactured, and marketed 25 CDs and several digital projects, in genres ranging from folk and pop rock to funk. They have also booked and pro-



Marshall Street Records features (clockwise from above) street musician Eli Harris, singer/songwriter Joey Milewski '16,



the *Electrocuse* series, and rap artist Jay Foss '13.



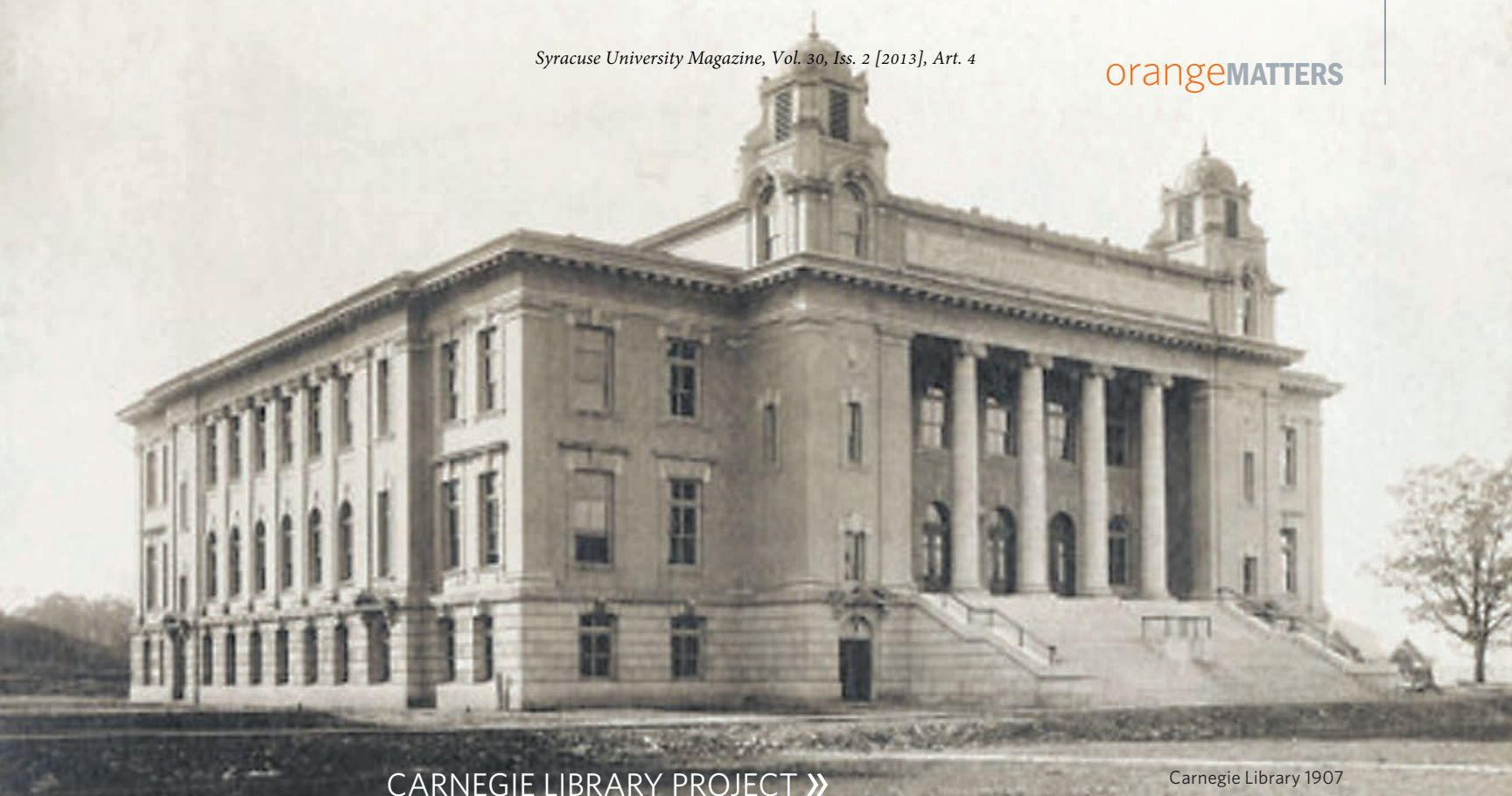
moted theater-level concerts, including three sold-out Ra Ra Riot shows in Syracuse. “The students do much more than record and release music,” says Professor David Rezak, director of the Bandier program and faculty founder of both music companies. “So, similar to what we see in the commercial music world, an eclectic skill set and a very collaborative environment are needed to make this a successful music company team.”

MSR also allows students opportunities to contribute to the life and culture of the University and the Syracuse community through the promotion of student, alumni, and local musicians. “We learn every single part of the music industry that it’s possible to go into,” says Pollock, who holds a summer internship with Big Hassle Media in New York City and will spend the fall semester in Los Angeles through the Bandier program. She has her sights set on a career in music publicity. “We’re definitely going to be continuing *Electrocuse*,” Pollock says. “It’s a growing genre of music and a great way to get the Syracuse community involved with the University. All of us at MSR are excited to continue our many projects and hope to grow and improve as we go forward.”

—Amy Speech

LISTEN UP

To learn more about Marshall Street Records and listen to music samples by current artists, visit marshallstreetrecords.com. A free download of *Electrocuse Volume 3* is available on SoundCloud.



CARNEGIE LIBRARY PROJECT »

Carnegie Library 1907



RETURN TO ORIGINAL SPLENDOR

CARNEGIE LIBRARY WAS ONE OF THE MOST beautiful buildings on campus in the early 1900s, but the years have taken a toll on this architectural gem. Now a major effort is under way to restore Carnegie to its original splendor, with an ambitious five- to six-year renovation project launched in 2011. "Carnegie is one of the buildings on the University's historic district registered with the National Register of Historic Places," says Eric Beattie, director of design and construction. "The renovation is part of a cyclical plan to rejuvenate campus buildings and keep them in good condition."

The renovation of Carnegie is a major undertaking, with planned spending in excess of \$1 million over the course of the project. To date, the grand reading room has been refurbished with new parquet flooring, and the scagliola (ornamental plaster) in the reading room and lobby has been cleaned and restored to its former beauty. In addition, the long library tables have been refinished, new lighting fixtures installed, and the concrete floors polished. On the first floor, two new classrooms have been built, and on the third floor, the windows overlooking the reading room have been replaced with permanent glass railings.

Located on the Quad between Archbold Gym and Bowne Hall, Carnegie Library was made possible with a \$150,000 gift from philanthropist Andrew

Carnegie, who supported the establishment of public, academic, and school libraries throughout the United States, Britain, Canada, and other English-speaking countries. Completed in 1907, Carnegie served as SU's main library for more than 60 years until Bird Library opened in 1972. Since then, the historic building has housed the engineering, life sciences, chemistry, and mathematics libraries, as well as the Department of Mathematics.

Carnegie Library has continued to operate throughout the multiyear renovation project. However, due to safety concerns, it was closed for the summer while a larger elevator was installed and ramps were added to improve accessibility at the two entrance doors flanking the exterior steps that face the Quad. Looking ahead, plans include bathroom upgrades and electrical, heating, and ventilation system improvements, and ensuring that all fire and safety codes are met. A highlight of the renovation project was the reinstallation of the statue of Diana the Huntress in Carnegie's main lobby. The statue, created by sculptor Anna Hyatt Huntington and donated to SU in 1934, was moved from Carnegie Library to Bird Library years ago, says Pamela McLaughlin, director of communications and external relations for Syracuse University Library. "Now that Diana has been returned to her original home, Carnegie has been restored to its original glory."

—Christine Yackel





The National Civil Trial Competition championship team included (from left) Ryan Campbell L'13, Christopher DeFrancesco L'13, Mary Louise Wright L'13, Professor Joanne Van Dyke L'87 (coach), Illianov Lopez L'13, and Jason Feldman L'13.

MOOT COURT » WINNING ARGUMENTS

TWO DAYS BEFORE GRADUATING from the College of Law, Cady Sinnwell Gerlach L'13 recalled with a laugh how anxious she was when she began competing in moot court trials as a new law student. "Everyone is so nervous their first time," says Gerlach, outgoing executive director of the law school's Moot Court Honor Society. "You feel like you are shaking. And then you leave the court room and get a rush of adrenaline. I think people who get that kind of high—they know this is for them. They get that court room buzz. And it's contagious!"

However terrifying and exhilarating that first moot court experience was, trial competition became a vital part of Gerlach's education, allowing her to gain confidence and providing hands-on training in argumentation, quick thinking, and responding to judge's questions. Fortunately for Gerlach and her fellow attorneys-in-training, the College of Law boasts one of the most prestigious moot court programs in the country and is one of the few law schools offering a first-year moot court competition. Run by students with the support of a faculty director and

student life advisor, the Moot Court Honor Society is composed of 72 second- and third-year students selected through a rigorous application process and directed by an elected executive board. Throughout the academic year, members participate in intramural and intercollegiate competitions designed to sharpen oral and written advocacy skills that are essential in the legal profession.

This year, the college's trial teams experienced more success than ever before. The National Civil Trial Team competed in Los Angeles and advanced to final rounds undefeated, ultimately winning the championship. Another highlight was the National Appellate Team advancing to national finals, competing against 196 teams from 150 law schools. Additionally, the college finished in the final four at the regional rounds of the Phillip C. Jessup International Moot Court Competition, the largest such competition in the world, which draws participants from more than 500 law schools from more than 80 countries. "Across the board, at every competition, our teams were recognized for their quality," says legal writing professor Lucille Rignanes

L'99, faculty director of the Moot Court Honor Society and coach of the Jessup Team. She attributes these achievements to the talent, energy, and experience of the students who participated, as well as the commitment of their coaches and mentors, many of them alumni. "The students love having alumni here, hearing their perspectives and receiving their feedback and advice," she says. "And alumni enjoy seeing students learn and succeed. Their help is indispensable, and we're hoping for even more of that in the future."

Another factor in this year's success was an emphasis on alternative dispute resolution, rounding out the program's traditional focus on trial and appellate teams. Dan Cantone L'81, who coached the American Bar Association Student Negotiation Competition Team, encouraged students to compete in this growing aspect of law practice. "They learn to strategize. They learn to problem solve. They learn to collaborate with others," says Cantone, an adjunct faculty member and practicing family law attorney. "Those are really the most important skills they'll take away in the practice of law." —Amy Speech

» RESEARCH SNAPSHOT

PROJECT: Economic Impacts of Emerging Clean Energy Industries: Jobs and Wages in the Wind Energy Global Value Chain

INVESTIGATOR: Jason Dedrick

SCHOOL: Information Studies

SPONSOR: Alfred P. Sloan Foundation

AMOUNT AWARDED: \$124,775
(2011-13)

BACKGROUND: Should the United States continue to support the wind energy industry? Existing policies include a federal Production Tax Credit (PTC), which pays wind generators 2.2 cents per kilowatt-hour produced, and state laws mandating a certain amount of electricity be supplied by renewable energy sources. These policies have helped U.S. wind generation grow rapidly and driven investment in a domestic manufacturing base. Yet they are criticized by some as being too expensive and distorting energy markets.

To understand the value of the wind industry in the United States, iSchool professor Jason Dedrick and colleagues Kenneth L. Kraemer and Greg Linden have been examining such industry-related issues as cost, economic impacts, and innovation. They developed an adjusted cost model to compare the full cost of wind versus other energy sources, particularly natural gas.

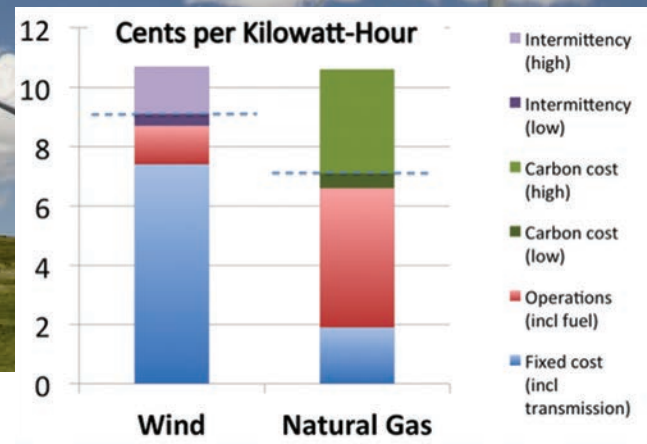
The adjusted cost adds the cost of carbon emissions to fossil fuels, and the cost of intermittency to wind energy (the cost of providing backup energy when wind speeds drop). Since there is a range of estimates for both carbon and intermittency costs, they use a high and low estimate for each. The figure above compares the cost of wind and gas under high and low cost scenarios for carbon and intermittency. The dashed lines represent the lowest adjusted cost for each source. While wind is more expensive than natural gas on average, there are many scenarios in which wind is competitive with natural gas.

Regarding the industry's economic impacts, their research shows the U.S. industrial base for wind has grown rapidly, with domestic content reaching 65 percent for wind equipment, compared to 35 percent a decade ago. The industry now supports 30,000 jobs in the United States and about 9,000 more outside the country. Many of these are relatively well-paying manufacturing and construction jobs, along with many professional and engineering positions.

Another case for supporting wind is to encourage U.S. leadership in an emerging

energy technology. This requires having a market to support domestic R&D, particularly by domestic companies. They've found that European turbine makers have set up manufacturing in the United States, but do most R&D in their home countries. By contrast, General Electric does most of its R&D and product design in the United States. The majority of GE's wind business is in this country, so a sizable U.S. market is vital to its continued innovation in wind technologies.

IMPACT: Dedrick and his colleagues conclude that it makes sense to provide continued support to the wind industry to develop a clean, affordable energy source that creates jobs and supports technology investments in the United States. In their view, renewable standards should be rationalized across states, and the PTC should be extended to compensate for the cost of carbon emissions that are not captured in the market price of fossil fuels. However, the PTC should be gradually phased out so the wind industry is forced to innovate and stand on its own.



» NEWS MAKERS

Thomas V. Wolfe G'02, senior vice president and dean of the Division of Student Affairs, was named the 14th president of the Iliff School of Theology in Denver. Wolfe began his more than two-decade career at SU as the Interdenominational Protestant chaplain and was appointed the fifth dean of Hendricks Chapel in 1999. He was selected to lead the Division of Student Affairs in 2008.

Two College of Arts and Sciences faculty members—mathematics professor **J. Theodore Cox** and **M. Cristina Marchetti**, the William R. Kenan Jr. Professor of Physics—have been appointed 2013 Simons Fellows. Cox received a \$110,000 award, which he will use to study probability theory. Marchetti was awarded \$129,000, which she will use for research on theoretical modeling of active matter.

Ryan Milcarek '15, a mechanical engineering major in the L.C. Smith College of Engineering and Computer Science, was

named a 2013 recipient of an Astronaut Scholarship, given by the Astronaut Scholarship Foundation. The \$10,000 scholarship is presented to 26 top science and engineering students nationwide.

Zachary West '10, L'13 received the 2013 Burton Award for Distinguished Legal Writing. One of 15 students recognized nationally for the award, the College of Law graduate was cited for his work, "Young Fella, If You're Looking for Trouble I'll Accommodate You: Deputizing Companies for the Use of Hackback," which was published in Volume 63 of the *Syracuse Law Review*.

Gina Lee-Glauser, vice president for research at Syracuse University and research professor of mechanical and aerospace engineering at the L.C. Smith College of Engineering and Computer Science, was named a Fellow of the American Society of Mechanical Engineers.

» SPORTS

The **Syracuse men's lacrosse team** advanced to the NCAA championship game in May, but was upended by seventh-seeded Duke, 16-10, for the title at Lincoln Financial Field in Philadelphia. The top-seeded Orange, appearing in the finals for the first time since it won the title in 2009, reached the championship with tournament victories against Bryant, Yale, and Denver. The squad finished its season with a 16-4 record. **JoJo Marasco '13**, Big East Midfielder of the Year and a finalist for the Tewaaraton Award (the sport's highest individual honor), was named to the U.S. Intercollegiate Lacrosse Association All-America First Team.

The **SU women's lacrosse team** made its second straight appearance in the NCAA Final Four, where top-seeded Maryland downed the fourth-seeded Orange women, 11-10, at Villanova Stadium in May. North Carolina defeated Maryland, 13-12, in the third sudden-death overtime to capture the title. In the NCAA tourney, SU defeated Dartmouth and Florida en route to its fourth Final Four appearance since 2008. The SU women completed their season with an 18-4 record. **Alyssa Murray '14** collected several honors, including Big East Attack Player of the Year, Tewaaraton Award finalist, and Intercollegiate Women's Lacrosse Coaches Association All-America First Team.

Distance runner **Lauren Penney '12, G'13** and hurdler **Donald Pollitt '15** were recognized as U.S. Track & Field and Cross Country Coaches Association First Team All-Americans following top-10 finishes at the NCAA Division I Outdoor Track

and Field Championships in Eugene, Oregon, in June. Penney finished eighth in the 5,000-meter run with a time of 16:01.09. Pollitt placed sixth in the 110-meter hurdles final, clocking in at 13.52 seconds.


SU men's basketball coach **Jim Boeheim '66, G'73** has returned to his assistant coach position with USA Basketball. He'll work with the men's national team as it seeks a third straight Olympic gold at the 2016 Summer Olympics in Rio de Janeiro, Brazil.

Orange guard **Michael Carter-Williams '15** was the 11th pick in the 2013 NBA Draft, going to the Philadelphia 76ers.

Orange women's rower **Natalie Mastracci '13** was named a member of the 2013 Pocock All-America First Team by the Collegiate Rowing Coaches Association (CRCA). Mastracci, who was also a 2010 All-American, earned a silver medal at the 2012 London Olympics as a member of the Canadian women's eight.

The CRCA honored six members of the Syracuse women's rowing team as National Scholar Athletes: **Rose Aschebrock '15**, **Meryl Engler '13**, **Caroline Habjan '15**, **Amy Ludovici '15**, **Rebecca Soja '14**, and **Miranda Williams '14**.

Orange women's field hockey player **Iona Holloway '13** was named to the 2013 Capital One Academic All-America At-Large Second Team.



**“THANKS TO PHILIP HUTTAR,
I’M GETTING A SYRACUSE
UNIVERSITY EDUCATION. IT’S
NICE TO KNOW THAT SOMEONE
FROM MY OWN HIGH SCHOOL
COULD MAKE IT POSSIBLE.”**

As a student at Trumansburg High School, the late **Philip B. Huttar '54** assumed he'd have to earn his way through college. But thankfully, SU recognized his potential and offered him a full scholarship.

Making the most of his education, Huttar went on to a successful career as a human resources executive with General Motors. He never forgot what SU did for him, and in his will, he included a generous bequest to establish the Philip B. Huttar Endowed Scholarship to help other students from Trumansburg—like **Meghan Durling '14**—attend SU.

YOU CAN LEAVE A LEGACY, TOO.

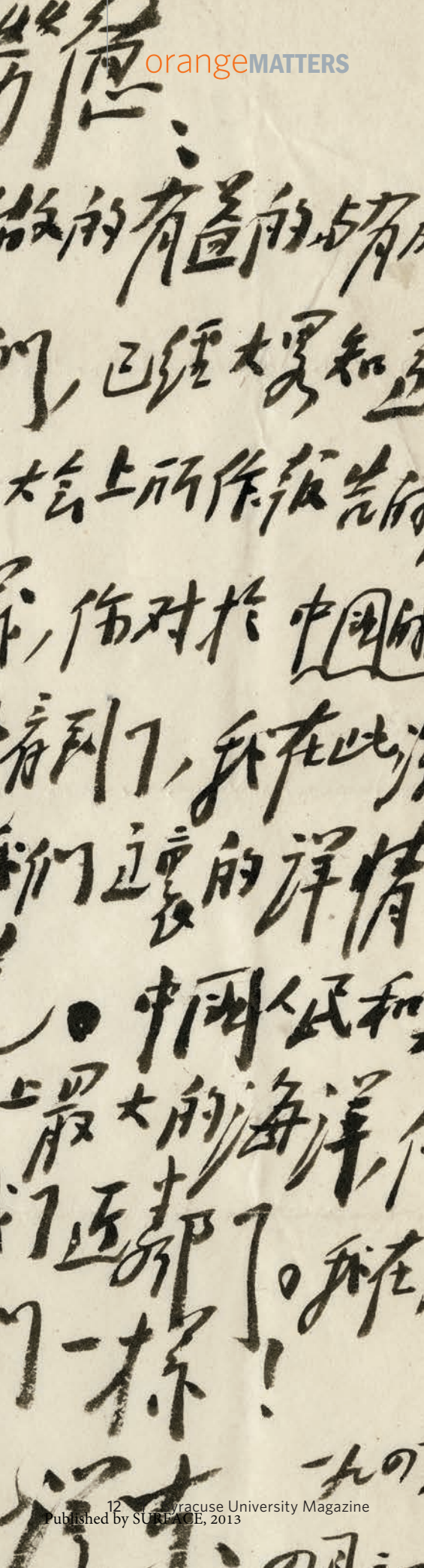
Bequests, no matter what their size, have an impact. In fact, SU's continued success is the direct result of thousands of bequests—large and small—made by alumni and friends. When you make a bequest, you'll be recognized as a Syracuse University **Pathfinder**, joining a group of insightful leaders who have included SU in their long-term financial plans.

LEARN MORE.

To learn how you can help make a Syracuse University education possible, call **888.352.9535** or e-mail giftplan@syr.edu. For help on writing a bequest, visit giving.syr.edu/samplebequest.

Meghan Durling '14
College of Arts and
Sciences history major

PATHFINDER
SYRACUSE UNIVERSITY
syracuse.planyourlegacy.org



UNIVERSITY TREASURES »

A PERSONAL LOOK AT AMERICA'S FOREMOST COMMUNIST

BY LAURA BROWDER

THERE IS NOTHING QUITE LIKE THE EXPERIENCE of being in the beautiful, sunlit special collections reading room on the top floor of Bird Library—especially when one is about to dive into 86 meticulously cataloged boxes of family history. I was there to do research for a documentary about my grandfather, Earl Browder, as well as a joint biography of him and my grandmother, Raissa Berkmann Browder—a task that was almost overwhelming to contemplate.

After all, my grandfather Earl Browder was the head of the American Communist Party (CPUSA) during its most influential period—the Great Depression. He coined the slogan “Communism is 20th-century Americanism.” He ran for president twice against Roosevelt and appeared on the cover of *Time* magazine in 1938. In 1946, on Stalin’s orders, he was expelled from the Communist Party for revisionism. During all of these years, he was tracked by both the FBI and the KGB, and in the mid-1990s, the VENONA project was published—a series of KGB cables that named my grandfather as a Soviet spy.

During the 1960s, when my grandfather was in need of funds, he sold his papers to a rare book dealer, who in turn sold them to Syracuse University. When I got there, archivist Paul Barfoot, who had just spent two years meticulously cataloging the collection, took me back into the stacks to see my grandfather’s library. I had an unsettling feeling as I browsed the titles, many of which—history, current events, and fiction—were on my own shelves at home.

Although I knew many details of my grandfather’s life, visiting the archive was a revelation. I knew he had been born in 1891, the eighth child of a Wichita, Kansas, family. Forced to drop out of school at age 10 to

help support his family, he became active in the labor movement, and then became an outspoken opponent of World War I—for which he and one of his brothers spent two years in Leavenworth prison for failure to register for the draft. Yet for me to find a faded typescript of a poem their father had written, marking the occasion of his sons’ first day in prison, made it all personal.

My grandfather led an amazingly eventful life. While in Moscow in the mid-’20s, Earl met my grandmother, Raissa Berkmann, in a training program for future Communist leaders. He spent the next seven years in a commuting relationship with her, traveling between his party work in Yonkers, my grandmother in Moscow, and a war in China, where he took part in the struggles between Chiang Kai-Shek and the Communists and became close friends with Zhou Enlai.

My father and one of his brothers were born in Moscow, and they and Raissa eventually joined Earl in the United States in the early 1930s, where he worked closely with writers like John Dos Passos, Lillian Hellman, Richard Wright, and Dashiell Hammett, as well as Hollywood figures like Paul Robeson. However, his attempts to distance the American party from Soviet-style Communism led to Stalin ousting him in 1946. During the 1940s and ’50s, he was in and out of prison, and was called before the House Committee on Un-American Activities, while the U.S. government attempted for 15 years to deport my grandmother back to the Soviet Union—an effort that ended only with her death in 1955, following a seven-year battle with cancer. Earl Browder, who struggled to rehabilitate his public reputation following his ouster from the party, died in 1973.

Laura Browder, the Tyler and Alice Haynes Professor of American Studies at the University of Richmond, is an author and documentary filmmaker. In March, she visited campus and gave a lecture and mini-seminar on her grandfather as part of the 2012-13 Ray Smith Symposium, Positions of Dissent.



In the archive, the personal and the world-historical share space. A message in the calligraphy of Mao Zedong helped me understand Earl's strong ties to China. A folder full of handwritten letters from my grandmother detailed the harsh living conditions she and their sons endured in the Moscow winters, but also gave evidence of her hope and idealism, offering a window into a marriage that endured his 14-month imprisonment on federal charges in the early 1940s and her own health and legal struggles.

Many of the photographs in the collection detail remarkable events and people of the 1930s. Yet in box 80, between some photographs of Earl on the front lines of the Spanish Civil War, accompanied by members of the Abraham Lincoln Brigade, and a photograph of my grandfather with labor leader Ella "Mother" Bloor, there was one with a name I did not recognize, filed along with a note addressed to "Comrade Browder" from Evelyn and Alvin Averbuck, a couple from Flushing, New York. "We failed to send you an announcement of Earl's birth on May 20th, which happens to be the birth of our favorite American—you. But a little belatedly we are proud to send you a picture of your namesake with the hopes that he and his parents will be able to live up to the inspiring leadership that you and the National Committee are giving to the Party and the Working Class of our country."

Signed "Comradely yours," this letter accompanies a snapshot of their new son. In the portrait, the rather large-eared Earl, perched on a flowered chintz pillow, gazes open-mouthed at my grandfather's book *What Is Communism?*, which a helpful adult hand is holding up

for his scrutiny. It's hard to know what he is thinking. Yet this serene baby seems far removed from the swirling undercurrents of history, a great reminder that the world of American communism included not just indictments and protest marches and doctrinal disputes, but also silly baby pictures sent by parents whose faith in the working class, and the leadership of my grandfather, seemed unlimited.



The Earl Browder collection at SU features numerous items of intrigue, including a message in the calligraphy of Chinese leader Mao Zedong (facing page). Browder and his wife, Raissa Berkmann Browder (top photo), met in Moscow. Their family lived in the Soviet capital for several years before moving to the United States in the early 1930s.



Professor Cliff Davidson surveys the OnCenter green roof. Davidson and his team of students (facing page) explore the plant life.

GREEN ROOF PROJECT »

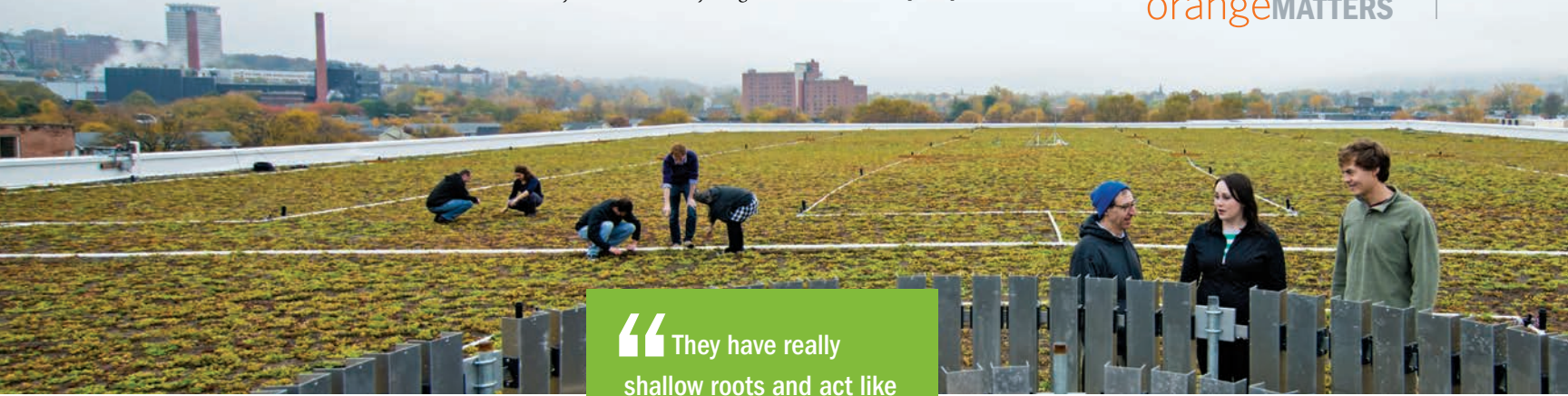
MEASURING THE SUCCESS OF ROOFTOP GREENERY

ON A PICTURESQUE SPRING DAY, PROFESSOR CLIFF DAVIDSON and Joey DiStefano '14, an environmental engineering major, stand atop the OnCenter roof in downtown Syracuse amid 1½ acres of green vegetation splashed with rusty gold and crimson, and discuss where to place research equipment. As one of the largest green roofs in the Northeast and the centerpiece of Onondaga County's green infrastructure initiative, the roof subverts vast amounts of storm-water runoff and will provide Davidson and his research team with valuable data for long-term studies. "There's not much data on green roofs around the world," says Davidson, the Thomas and Colleen Wilmot Chair in Engineering at the L.C. Smith College of Engineering and Computer Science. "This is right at the forefront of the work. There isn't any other place like this that is fully instrumented. We have a unique facility here in Syracuse."

For Davidson, the project truly represents a watershed moment in sustainable engineering research. In collaboration with Onondaga County, Davidson and his research team, which includes three doctoral candidates and several undergraduates, will study the effectiveness of the green roof, using real-time sensors and specially designed equipment to examine storm-water capture and runoff, energy movement through the roof, and evapotranspiration—the natural combination of evaporation and plant transpiration. "We want to study this green roof from different perspectives to understand as much as we can about its

performance," he says. "The county has been terrific in terms of its willingness to collaborate."

During this trip to the convention center, Davidson and DiStefano visit their data room, where a series of cables will feed information from sensors into a data logger. They scout the roof for a location to place an antenna that will transmit collected data to an antenna on the Whitman School of Management building and on to a campus server. They also survey the colorful sea of vegetation, which features five species of sedum and one of phedimus. "They have really shallow roots and act like sponges," DiStefano says. "They absorb and retain a lot of water—the goal of the green roof." The sturdy, drought-resistant plants sit in three inches of an artificial growth medium—a soil substitute specifically designed for green roofs—that covers a waterproof membrane atop insulation and roofing structure. Davidson and DiStefano consider where to place a lysimeter, a sensor-equipped plastic container filled with the growth medium and vegetation that essentially replicates a section of the rooftop greenery. It will allow them to measure the growth medium's moisture content and determine how much water vanishes through evapotranspiration. They plan to locate four lysimeters, which DiStefano designed for the project, on different areas of the roof, resting them on load cells that will continuously weigh the containers. "I couldn't ask for a better project to be involved with," says DiStefano, who has worked on Davidson's team since last summer.



“They have really shallow roots and act like sponges. They absorb and retain a lot of water—the goal of the green roof.”

—JOEY DISTEFANO '14

“It’s so at the forefront of everything with green infrastructure and even with wireless data sensing.” Davidson also notes they’ll be able to see if there are any substantial differences from one part of the roof to another. “At some places on the roof, we expect to have more air turbulence, and that is likely to carry more of the water away and assist in evaporation,” he says.

They’ve also equipped the roof with a weather station and two types of precipitation gauges—a tipping bucket that tips every time the water in it reaches a certain level, and a weighing bucket, which provides a continuous weight of the rain or snow. It’s surrounded by an alter-shield, two layers of sturdy metal fashioned to fend off the wind. “I’m sure it will be a constant battle against the elements to keep all this stuff going,” Davidson says. Amid all this, Davidson also has a tipping bucket and other measuring equipment on the roof of the nearby Onondaga County Justice Center that will act as a control roof, allowing them to compare measurements between the two locations.

For Davidson, the project’s every detail—and there are a lot of them—requires careful analysis. Davidson and his research team have been developing experiments and equipment for more than two years, and he expects to begin gathering data in 2014. When the OnCenter green roof construction began in spring 2011, they placed temperature sensors in the internal layers of the roof, from the top of the exhibit hall ceiling through to the growth medium. “We can look at energy transfer from

the inside of the building to the outside,” he says. “We’re interested in learning about energy loss through a huge roof like this.”

The green roof is part of the county’s nationally recognized Save the Rain program, launched in 2009 as part of a legal agreement to reduce combined sewer overflows

(runoff and raw sewage) into Onondaga Lake and its tributaries—the result of a longstanding problem of local sewage treatment plants being overwhelmed with storm runoff. According to the county, the \$1 million initiative removes an estimated 1.03 million gallons of storm-water runoff annually from the sewer system—a figure that Davidson’s research will fine-tune.

Mallory Squier, a doctoral candidate in environmental engineering who’s helping Davidson manage the project, can’t wait for the data to start rolling in. “I love green roofs,” says Squier, who was involved in a green roof project as an undergraduate at Penn State. “It will be really exciting when we get to quantify how much water the roof is retaining.” In Davidson’s Link Hall lab, Squier is working on calibrating an electromagnetic flowmeter, or magmeter, that will measure runoff through the green roof’s drain pipes. They’re testing the magmeter on a 10-inch pipe with a 4-inch pipe diversion (for measuring lower flows). The pipes have a section of Plexiglas, so the water flow can be seen. According to Davidson, there are 25 roof drains that connect into 10-inch pipes, and inside the OnCenter exhibit hall three of them will be fashioned similar to their lab model. One is already installed and will be complemented in the exhibit hall by an educational display explaining the process.

Educating people about the green roof is part of the collaborative effort with the county. As they complete their equipment installation and begin to gather data, Davidson’s team plans to work with the School of Education to create a web site and post the real-time data, making it available for science teachers to use in their classrooms. “We’ll have web cams up there, too, so kids can look at the web site and see it raining on the green roof and see the changing colors during the year,” Squier says. For Davidson, the project is also an opportunity to demonstrate how nature’s processes can be incorporated beneficially into our built environment. “There are countless services that ecosystems provide for us,” he says. “So there are tremendous opportunities for understanding the link between human civilization and natural processes that this green roof can reveal to us.” —Jay Cox

